GURGENIDZE V.

Def. at
Tbilisi State U.

GURGENIDZE, V.V., inzh.

Photoelectronic probe with a transparent spool. Mekh. i avtom. proizv. 17 no.12:36 D'63. (MIRA 17:2)

MELIKADZE, L.D.; VASHAKIDZE, E.Ya.; GURGENIDZE, A.T.

Flare-up of fluorescent solutions of some condensed aromatic hydrocarbons under ultraviolet irradiation. Soob. AN GruzSSR 37 no.2:305-310 F '65. (MIRA 18:3)

1. Institut khimii im. P.G. Melikishvili AN GruzSSR. Submitted July 23, 1964.

S/181/62/004/004/029/042
B102/B104

24.7000

AUTHORS: Rashba, E. I., and Gurgenishvili, G. E.

TITLE: On the theory of edge absorption in semiconductors

PERIODICAL: Fizika tverdogo tela, v. 4, no. 4, 1962, 1029-1031

TEXT: Many semiconductors, especially those whose range of intense intrinsic absorption begins with an exciton series, show a series of narrow absorption bands before this range. This series is called the "fore-spectrum". The absorption in this "fore-spectrum", which is $\sim 10^{-3}$-$10^{-2}$ ev distant from the exciton bands, depends considerably on the defects of the semiconductor, its intensity varies within a wide range, but is some orders of magnitude lower than the intensity of the exciton bands. If it is assumed that $f_d \sim f_{ex}$, the calculated defect concentrations are inconsistent with the measured ones. It is now shown that $f_d \gg f_{ex}$ and the anomalously high value of $f_d$ is explained. $f_d$ is the oscillator strength for the absorption in the "fore-spectrum", $f_{ex}$ that of the

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exciton transition. The physical nature of this effect is the same as of the anomaly in impurity absorption in molecule crystals near the exciton bands (Opt. i spektr. 2, 568, 1957; DAN SSSR, 139, 1084, 1961). Under several simplifying assumptions and considering the exciton as a quasiparticle moving as a whole in the field of the defects, $f_d=|c_o|^2 f_{ex}$ if also the frequency difference between exciton band and "fore-spectrum" is neglected. $c_o = 2\sqrt{2\pi/v}\,/\varkappa^{3/2}$, $\varkappa = \sqrt{2m|E|}/\hbar$; v is the unit-cell volume. The resulting relations read $f_d=(E_o/|E|)^{3/2}f_{ex}$, $E_o = \frac{2\hbar^2}{m}\left(\frac{\pi}{v}\right)^{2/3}$. Since $E_o$ is of the order of some ev and $|E|$ of some $10^{-3}$ ev, $f_d$ exceeds $f_{ex}$ by 4-5 orders of magnitude. Though for the Mott exciton $f_{ex} \ll 1$, $f_d$ can reach $\sim 10^2$-$10^3$.

ASSOCIATION: Institut poluprovodnikov AN USSR Kiyev (Institute of Semiconductors AS UkrSSR, Kiyev). Institut fiziki AN GSSR Tbilisi (Institute of Physics AS Gruzinskaya SSR, Tbilisi)

SUBMITTED: December 25, 1961

44155

S/181/62/004/010/050/063
B102/B112

24400
24710

AUTHORS: Baramidze, G. A., Gurgenishvili, G. Ye., and Khutsishvili, G. R.

TITLE: Quantum theory of cyclotron resonance in a degenerate band

PERIODICAL: Fizika tverdogo tela, v. 4, no. 10, 1962, 2958-2963

TEXT: According to Luttinger (Phys. Rev. 102, 1030, 1956) the hole levels in the degenerate valence band of germanium can be divided into four groups, two of which ($a^+$,$b^+$) appertain to light and two ($a^-$,$b^-$) to heavy holes. If the initially applied magnetic field is crossed by an alternating electric field then cyclotron resonance absorption takes place and, as shown by Goodman (Phys. Rev. 122, 397, 1961), transitions take place not only between levels of one group but also between $a^+$ and $a^-$ or between $b^+$ and $b^-$. If the alternating electric field is applied along the magnetic field then transitions between the level groups a and b are excited as is shown in the present paper. The probabilities of the various cyclotron transitions possible are calculated. The interaction between the holes and the alternating field is described by

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Quantum theory of cyclotron ...

$$F=\mathcal{H}\left(\mathbf{k}+\frac{e}{c}\mathbf{A}\right)-\mathcal{H}(\mathbf{k})=\frac{\partial\mathcal{H}(\mathbf{k})}{\partial\mathbf{k}}\frac{e}{c}\mathbf{A}, \qquad (1)$$

where $\mathcal{H}(\vec{k})$ is the hole Hamiltonian in the constant magnetic field, $\vec{k}$ the momentum of the holes without alternating field and $\vec{A}$ the vector potential of the incident wave; $F = Ve^{-i\omega t} + V^{+} e^{i\omega t}$; $V = \frac{e}{c}\frac{\partial\mathcal{H}(\vec{k})}{\partial\vec{k}}\vec{A}_1$. The transition probability per unit time is given by

$$W(i\to f,\ \omega)=\frac{2\pi}{\hbar^2}|(f|V|i)|^2\varphi(\omega), \qquad (6),$$

$\varphi(\omega)$ gives the line shape. It is obvious that in the case of a nondegenerate band with isotropic square dispersion law ($\mathcal{H}(\vec{k}) = k^2/2m^*$ and $V = \vec{ek}\vec{A}_1/m^*c$) a field $\vec{E} = 2\vec{E}_1\cos\omega t$ applied parallel to the magnetic field causes no transition. A vertical field however, does cause such transitions:

$$W(n\longleftrightarrow n+1,\ \omega)=\frac{\pi ceE_1^2}{\hbar H}(n+1)\varphi(\omega). \qquad (12);$$

Card 2/5

$\vec{A}_1 = -ic\vec{E}_1/\omega$. The cyclotron transitions in the degenerate valence band of germanium are studied. $\gamma_2 = \gamma_3 = \bar{\gamma}$ and $q = 0$ is assumed for the Luttinger parameter of the hole Hamiltonian (spherical symmetry). Thus

$$\mathcal{H}(\mathbf{k}) = \frac{1}{m}\left\{\left(\gamma_1 + \frac{5}{2}\bar{\gamma}\right)\frac{k^2}{2} - \bar{\gamma}(\mathbf{kJ})^2 + \left(\varkappa - \frac{\bar{\gamma}}{2}\right)\frac{e}{c}\mathbf{JH}\right\}. \quad (14)$$

and

$$V = \frac{e}{mc}\left\{\left(\gamma_1 + \frac{5}{2}\bar{\gamma}\right)(k_x A_x + k_y A_y) - \bar{\gamma}[(k_x J_x + k_y J_y)(\mathbf{AJ}) + (\mathbf{AJ})(k_x J_x + k_y J_y)]\right\}. \quad (17)$$

are obtained. If the electric field is perpendicular to the magnetic field then

$$V_\perp = \frac{eA}{mc}\left\{\left[\gamma_1 + \bar{\gamma}\left(\frac{5}{2} - 2J_z^2\right)\right]k_x - \bar{\gamma}(J_x J_y + J_y J_z)k_y\right\}. \quad (18)$$

and the possible transitions are

$$a^{\pm}(n) \longleftrightarrow a^{\pm}(n+1), \quad b^{\pm}(n) \longleftrightarrow b^{\pm}(n+1),$$
$$a^{\pm}(n) \longleftrightarrow a^{\mp}(n+1), \quad b^{\pm}(n) \longleftrightarrow b^{\mp}(n+1).$$

Quantum theory of cyclotron ...

In the case of parallel fields

$$V_1 = -\frac{eA}{mc}\gamma[(J_z J_x + J_x J_z)k_x + (J_y J_x + J_x J_y)k_y]. \quad (19)$$

and the possible transitions are

$$a^{\pm}(n) \longleftrightarrow b^{\pm}(n+1), \quad a^{\pm}(n) \longleftrightarrow b^{\mp}(n+1).$$

At small quantum numbers n all possible transitions have probabilities amounting to one order of magnitude. For $n \gg 1$ the transition probabilities for a $\pm$ (n) $\longleftrightarrow$ b $\pm$ (n+1) tend to zero as n increases and the frequencies are independent of n. The transition probabilities of levels of light and heavy holes do not tend to zero as n increases and the frequencies are dependent on n. The peaks of the latter disappear against those of the ordinary cyclotron transitions so that if the n are sufficiently large only two peaks will be obtained that belong to transitions between neighboring levels of one group. There are 2 tables.

Card 4/5

Quantum theory of cyclotron ...

S/181/62/004/010/050/063
B102/B112

ASSOCIATION: Institut fiziki AN Gruz. SSR, Tbilisi (Institute of Physics AS GruzSSR, Tbilisi)

SUBMITTED: June 25, 1962

Card 5/5

CHEISHVILI, O.D.; GURGENISHVILI, G. Ye.

Shape and width of cyclotron resonance lines. Trudy Inst. fiz. AN Gruz. SSR 9:185-190 '63. (MIRA 17:7)

GURGENISHVILI, G.Ye.

Combined resonance in deformed p-Ge. Fiz. tver. tela 5 no.8: 2070-2074 Ag '63. (MIRA 16:9)

1. Institut fiziki AN Gruzinskoy SSR, Tbilisi.
(Germanium crystals) (Nuclear spin)

ACCESSION NR: AP4013508 S/0181/64/006/002/0479/0482

AUTHOR: Gurgenishvili, G. Ye.

TITLE: Combination resonance in deformed p-type germanium and p-type silicon

SOURCE: Fizika tverdogo tela, v. 6, no. 2, 1964, 479-482

TOPIC TAGS: combination resonance, p-type germanium, p-type silicon, germanium, silicon, deformed germanium, deformed silicon

ABSTRACT: This is a continuation of previous work on combination resonance in strongly deformed p-type germanium (FTT, 5, 2070, 1963), but the author does not employ the relations $k_z=0$ or $\gamma_2 = \gamma_3$ in the present work. The latter is not suitable for silicon. It was found that the intensity of combination resonance declines with increase in deformation. Different transitions occur at deformations of different intensities and for different directions of deformation. The types of transitions that may occur are summarized in Fig. 1 and Table 1 on the Enclosures. "The author expresses his thanks to G. R. Khutsishvili for useful discussions and valuable advice." Orig. art. has: 1 figure, 1 table, and 9 formulas.

Card 1/2 ASSOCIATION: Institut fiziki AN Gruz. SSR, Tbilisi (Institute of Physics AN Gruz SSR)

GURGENISHVILI, G.Ye.; PKHAKADZE, M.G.; SARALIDZE, Z.K.

Magneto-optical absorption in the valence band of germanium. Fiz. tver. tela 6 no.2:554-558 F '64. (MIRA 17:2)

1. Institut fiziki AN Gruzinskoy SSR, Tbilisi.

ACCESSION NR: AP4043335 S/0181/64/006/008/2238/2244

AUTHORS: Buishvili, L. L.; Giorgadze, N. P.; Gurgenishvili, G. E.

TITLE: Influence of skin effect on nuclear magnetic resonance in ferromagnets

SOURCE: Fizika tverdogo tela, v. 6, no. 8, 1964, 2238-2244

TOPIC TAGS: ferromagnet, nuclear magnetic resonance, skin effect, nuclear spin

ABSTRACT: Nuclear magnetic resonance in ferromagnetic specimens whose dimensions exceed the depth of the skin layer (~$10^{-5}$ cm and above) are considered. This effect is of interest because in the case of NMR in ferromagnets the radio-frequency field acts on the system of nuclear spins not only directly, but also indirectly via the spins of the magnetic electrons, thus considerably intensifying the effective rf field and increasing the absorption. Another

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ACCESSION NR: AP4043335

effect is the correlation between the nuclear spins and the indirect Suhl-Nakamura interaction (H. Suhl, Phys. Rev. v. 109, 606, 1958; T. Nakamura, Progr. Theor. Phys. v. 20, 542, 1958), which causes a shift in the NMR frequency. The analysis is made for the magnetic field both parallel and perpendicular to the surface of the sample, and it is assumed for simplicity that the ferromagnet is magnetized to saturation by the external magnetic field. An expression is derived for the equivalent permeability, which determines the absorbed power. It is shown that the skin effect gives rise to an additional shift in the resonant frequency. The perturbations introduced by the skin effect are estimated to be approximately one-tenth those connected with the Suhl-Nakamura interaction, and it is therefore estimated that they become observable at temperatures below 0.3K. Orig. art. has: 28 formulas.

ASSOCIATION: Institut kibernetiki AN Gruz.SSR (Institute of Cybernetics, AN GruzSSR); Institut fiziki AN Gruz.SSR, Tbilisi

ACCESSION NR: AP4043335

(Institute of Physics, AN GruzSSR)

SUBMITTED: 18Nov63

ENCL: 00

SUB CODE: SS, NP

NR REF SOV: 001

OTHER: 005

Card 3/3

ACC NR: AR6035055 SOURCE CODE: UR/0058/66/000/008/E074/E074

AUTHOR: Gurgenishvili, G. Ye.; Cheyshvili, O. D.

TITLE: On the shape and width of lines of diamagnetic resonance in semiconductors and semimetals in an intense magnetic field

SOURCE: Ref. zh. Fizika, Abs. 8E567

REF SOURCE: Sb. elektron. i ion. protsessy v tverd. telakh. No. 2, Tbilisi, Metsniyereba, 1965, 96-102

TOPIC TAGS: magnetic field, electron scattering, diamagnetic resonance, semiconductor, semimetal, magnetic resonance, acoustic phonon, dielectric, solid dielectric, conductivity

ABSTRACT: A study was made of the effect of electron scattering by acoustic phonons, on the shape and width of diamagnetic resonance lines. The basis for the operation is the Lakes expression for electroconductivity (RZh Fiz, 1958, No. 10, 27806). Computations are effected by the method of resolvents. A summation is made of the "principal" terms in a series with respect to the interaction constant,

Card 1/2

ACC NR: AR6035055

containing a resonance denominator. Conductivity is computed for a simple electron energy spectrum, both for a degenerated and a non-degenerated electron gas.
I. Korenblit. [Translation of abstract] [SP]

SUB CODE: 20/

Card 2/2

L 58531-65 EWT(1)
ACCESSION NR: AP5012538 UR/0181/65/007/005/1335/1341

AUTHOR: Gurgenishvili, G. Ye.; Khutsishvili, G. R.

TITLE: Quantum oscillations of the relaxation time of nuclei in semimetals

SOURCE: Fizika tverdogo tela, v. 7, no. 5, 1965, 1335-1341

TOPIC TAGS: semimetal, quantum oscillation, relaxation time, transition probability, electron gas

ABSTRACT: The purpose of the investigation is to calculate the relaxation time of the nucleus in a semimetal placed in a magnetic field so strong that the quantization of the spatial motion of the electron (Landau quantization) is of importance. [illegible] metal. The analysis is confined to the case of a strongly degenerate [illegible]. The calculation is carried out for an arbitrary case in which the ratio of the Fermi energy to $\hbar\omega$ ($\omega$--cyclotron frequency of the conduction electrons in the H field) is arbitrary. For simplicity the analysis is limited to the case of a simple nondegenerate energy band with isotopic quadratic dispersion law. It is assumed that the conduction electron gas is in equilibrium. The results show that the relaxation time of the nucleus should oscillate when the en-

Card 1/2

L 58531-65

ACCESSION NR: AP5012538

ternal magnetic field is varied. The broadening of the transition-probability peaks is analyzed phenomenologically and formulas are derived for the transition probabilities in the peaks, as well as for the ratio of the transition probability at the peak to the probability of transition between neighboring peaks. The possibility of observing oscillations in the relaxation time in the quantum case is briefly considered. Orig. art. has: 26 formulas.

ASSOCIATION: Institut fiziki AN GruzSSR, Tbilisi (Institute of Physics, AN GruzSSR)

SUBMITTED: 06Oct64 ENCL: 00 SUB CODE: GS, NP

NR REF SOV: 000 OTHER: 003

Card 2/2

ACC NR: AT7000184 SOURCE CODE: UR/3182/65/002/000/0072/0081

AUTHOR: Gurgenishvili, G. Ye.; Khutsishvili, G. R.

ORG: none

TITLE: Magnetic nuclear relaxation in semiconductors and semimetals in a quantizing magnetic field

SOURCE: AN GruzSSR. Institut fiziki. Elektronnyye i ionnyye protsessy v tverdykh telakh, v. 2, 1965, 72-81

TOPIC TAGS: conduction electron, spin relaxation, nuclear magnetic moment

ABSTRACT: In semiconductors, spin relaxation of nuclei through contact with conduction electrons is important at high temperatures and when impurity concentration is sufficiently high. For a semimetal the contact mechanism is substantial even at low temperatures if the effective mass of the carriers is not too small. The purpose of this paper is to calculate the nuclear relaxation times in a semiconductor and semimetal in a magnetic field of such strength that the spatial motion of the electrons is significantly quantized (Landau quantization). Cases of nondegenerate and strongly degenerate carrier gases are examined. Results are not pertinent for metals because in metals the difference in the energies of neighboring Landau levels are always much less than the Fermi boundary energy. The nuclear relaxation time was calculated for

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ACC NR: AT7000184

the general case. For simplicity, only the case of a simple nondegenerate energy zone with an isotropic quadratic dispersion is considered. Equations are given for the case in which the resonance of the conduction electrons is partially saturated. If the nuclear magnetic moment in a semiconductor is 2 magnetons, $u^2(0) = 200$, $m/m = 1$, $T = 1°K$, the nuclear relaxation time is about 1 hr when $H = 5 \cdot 10^4$ oersted and about 20 min when $H = 10^5$ oersted. For semimetals with large atomic numbers, $u^2(0)$ reaches up to the order of 1000, and the relaxation time is much shorter. Orig. art. has: 50 formulas, 1 figure.

SUB CODE: 20/ SUBM DATE: none/ OTH REF: 006

Card 2/2

ACC NR: AT7000187 SOURCE CODE: UR/3182/65/002/000/0096/0102

AUTHOR: Gurgenishvili, G. Ye.; Cheyshvili, O. D.

ORG: none

TITLE: The shape and width of the diamagnetic resonance line in semiconductors and semimetals in a strong magnetic field

SOURCE: AN GruzSSR. Institut fiziki. Elektronnyye i ionnyye protsessy v tverdykh telakh, v. 2, 1965, 96-102

TOPIC TAGS: semiconductor conductivity, diamagnetism, phonon interaction, electron scattering

ABSTRACT: The effect of electron scattering by acoustical phonons on the shape and width of the diamagnetic resonance line is studied. Starting with the equation for the complex electroconductivity tensor, which is obtained from the single-electron equation of the density matrix and assuming a weak applied alternating electrical field, the authors derive the desired equations, simplifying them by selecting only the main terms and dropping secondary ones. It is shown that the energy of most electrons is small for semiconductors and semimetals with simple dispersion laws. Thus phonons with energy much less than that of electrons play the main role in phonon absorption and emission, collisions are elastic, and phonon distribution is classical. By assum-

Card 1/2

ACC NR: AT7000187

ing a low probability of electron transition to another level during phonon emission or absorption, the equation for the absorption line width is obtained. The cases of Fermi distribution and Boltsman statistics are treated. Orig. art. has: 27 formulas.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 005

Card 2/2

RUMANIA/Farm Animals. Horses Q-2

Abs Jour : Ref Zhur - Biol., No 11, 1958, No 49975

Author : Popescu D., Gurghi-St.
Inst : Institute of Agronomy
Title : The Microclimate of Stables.

Orig Pub : Annuerul lucrar. stint, Inst. agron., 1957, 297-319

Abstract : No abstract

Card : 1/1

19

RUMANIA



GURGHIS, St., Veterinarian, and LOZINSKI, A., Chemist, of the Faculty of Veterinary Medicine (Facultatea de Medicina Veterinara), Bucharest, and COSTEA, Tr., Veterinarian, of the Razvad State Farm (Gospodaria Agricola de Stat Razvad), Ploiesti Regiune.

"A and D Avitaminoses in Young Cattle Being Fattened."

Bucharest, Revista de Zootehnie si Medicina Veterinara, Vol 13, No 6, Jun 63, pp 29-36.

Abstract [Authors' English summary modified]: After about 3 months of fattening on industrial residues and poor quality wheat straw or hay in shelters with different luminosity coefficients (1/44 for lot I, 1/20 for lot II), young cattle developed vitamin A avitaminosis. Carotene contents in the blood serum was only 29.6 γ percent, on the average, per ml of blood serum in those with eye trouble and 34.8 γ for those without. Twenty days after administering green clover, serum carotenes reached an average of 302.4 γ. Twenty-two percent of the animals in lot II, kept in very dark shelters, also developed vitamin D avitaminosis with rickets and tetanus crises. About 20 percent of this lot had to be sacrificed. It is recommended that one forestall vitamin A and D avitaminoses by providing 1.5 to 2 kg of good hay and using shelters with luminosity coefficients of 1/25 to 1/30. 2 tables, 9 references of which 3 Western.

1/1

STANEK, Jan, inz.; GURGUL, Stanislaw, mgr; SZCZEPANSKI, Zygmunt

Model system designed by the Solartron Work. Pomiary 8 no.11:Suppl.: Biuletyn Osrodka Pomiarow i Automatyki 5 no.1:311-315 Jl-S '62.

1. Zaklady Azotowe, Tarnow.

STANEK, Jan, inz.; GURGUL, Stanislaw, mgr; SZCZEPANSKI, Zygmunt

Model system of the Solartron analog computer. Chemik 15 no.7/8:311-315 Jl-Ag '62.

1. Zaklady Azotowe, Tarnow.

GURICH, A. A.

"Productive Allowances for Surveying Operations During Underground Coal Mining." Cand Tech Sci, Leningrad Order of Lenin and Order of Labor Red Banner Mining Inst, Leningrad, 1955. (KL, No 14, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

GURICH, A.A.

Required and sufficient accuracy of basic nets in underground traversing. Zap. LGI 37 no.1:150-159 '58. (MIRA 12:8)
(Mine surveying)

GURICH, A.A.

Allowances determining the degree of accuracy in coal mine surveys. Zap. LGI 37 no.1:160-167 '58. (MIRA 12:8)
(Mine surveying)

KAZAKOVSKIY, D.A., prof.; KROTOV, G.A., dots.; GURICH, A.A., kand.tekhn. nauk

Use of sound ranging for the solution of geological and mine surveying problems. Gor.zhur. no.9:70-71 S '60. (MIRA 13:9)
(Mining geology) (Mine surveying)

KAZAKOVSKIY, D.A., prof.; GURICH, A.A., dotsent; ARANOVICH, V.B., inzh.; RUDNEV, L.N., inzh.

Use of sonar in mining. Gor. zhur. no.6:58-62 Je '62. (MIRA 15:11)

1. Leningradskiy gornyy institut.
(Mine surveying)
(Sonar)

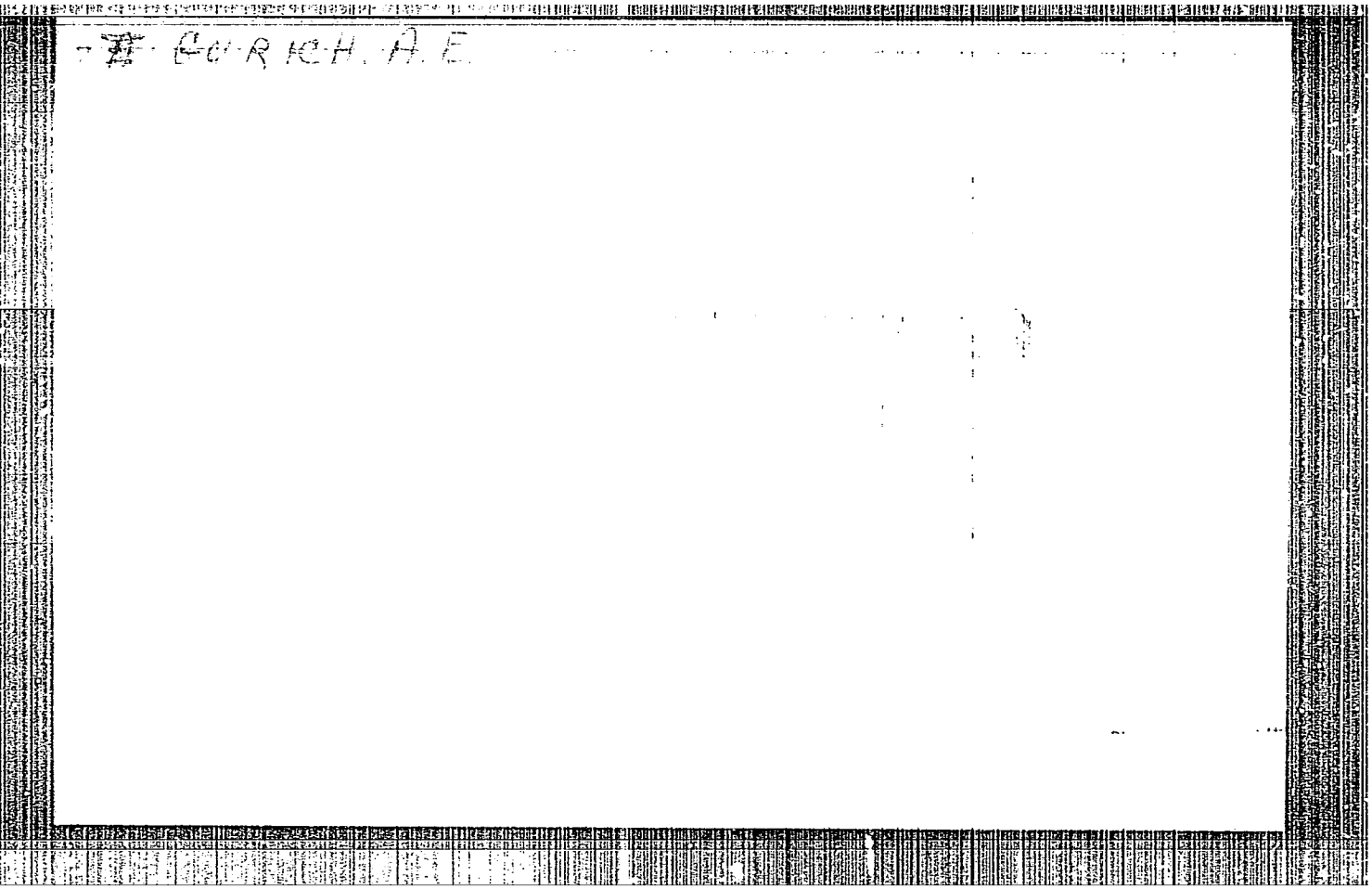
KAZAKOVSKIY, D.A., prof.; KROTOV, G.A., dotsent; GURICH, A.A., kand. tekhn. nauk

Use of sound-fixing apparatus in dredge workings. Izv. vys. ucheb. zav.; gor. zhur. no.6:40-48 '61. (MIRA 16:7)

1. Leningradskiy ordena Lenina i ordena Trudovogo Krasnogo Znameni gornyy institut imeni G.V. Plekhanova. Rekomendovana kafedroy marksheyderskogo dela.
(Mine surveying—Equipment and supplies)
(Sound—Equipment and supplies)

ARANOVICH, V.B.; GURICH, A.A.; KROTOV, G.A.; RUDNEV, L.N.

Technical errors in sound ranging measurements in mine surveying. Zap. LGI 46 no.2:117-130 '63. (MIRA 17:6)



35658

S/020/62/143/001/011/030
B104/B108

26.2317

AUTHORS: Arifov, U. A., Academician AS Uzbekskaya SSR, Gurich, D. D., Mirrakhimova, Kh., and Muzhavirov, S. Z.

TITLE: Investigation of secondary processes caused by fast neutral atoms of alkali metals

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 1, 1962, 69-71

TEXT: The experimental arrangement consisted of a source of fast neutral atoms and a semispherical collector (85 mm diameter) with a Ta target (10.10 mm) in its center. The working vacuum was $5 \cdot 10^{-7}$ mm Hg. The fast neutral atoms were obtained by resonance charge exchange of $Na^+$ ions in an Na vapor jet perpendicular to the $Na^+$ beam. The flux of the primary ions was measured before and after resonance charge exchange. The flux of neutral atoms was determined from this difference. According to the results, the secondary emission during interaction of fast neutral Na atoms with pure Ta targets and such covered with residual gas films is similar to the secondary emission induced by $Na^+$ ions interacting with Ta targets. Scattered positive ions with high energies are observed in both cases.

Card 1/2

Investigation of secondary ...

Under strictly equal conditions, the scattering coefficient of the neutral atoms is higher than that of the ions. There are 2 figures and 5 references: 4 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: H. W. Berry, J. Appl. Phys., 8, 1219 (1958).

ASSOCIATION: Institut yadernoy fiziki Akademii nauk UzSSR (Institute of Nuclear Physics of the Academy of Sciences Uzbekskaya SSR)

SUBMITTED: June 17, 1961

Card 2/2

KAVUN, N. D.; GUNICH, N. A.; SINOGEYKIN, S. A.

Gums and Resins

Work methods of stakhanovite oleoresin melter. Der. i lesokhim. prom. 1, No. 9, 1952.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

GURICH, N.A., nauchnyy sotrudnik.

Expand the production of highly resinous glue at rosin factories. Der.i lesokhim. prom. 2 no.7:14 Jl '53. (MLRA 6:5)

1. Tsentral'naya nauchno-issledovatel'skaya laboratoriya Khl. (Glue)

GURICH, N. A.

Chemical Abst.
Vol. 48 No. 3
Feb. 10, 1954
Cellulose and Paper

Industrial processing of freshly cut pine stumps. V. F. A. Mednikova and N. A. Gurich. *Derevopererabatyvayushchaya i Lesokhim. Prom.* 2, No. 10, 19-20(1953).—The solvent extn. of freshly cut pine stumps (I) (*Pinus silvestris?*), av. height 28 cm. and av. diam. 36 cm., d. 0.7–0.8, from 110 to 130-year-old trees from the Bryansk region, was studied. I, with less than 40% sapwood by vol., with 13% oleoresin (based on wood with 20% $H_2O$), 3.67% turpentine, and 24.1% $H_2O$, were converted to chips (21.91% above 15 mm., 42.24% 9–15 mm., 17.25% 6–9 mm., 7.60% 4–6 mm., 3.60% 2–4 mm., and 0.43% fines) and extd. 7 hrs. with petr. naphtha in a countercurrent extn. battery, 90–5° in the 1st extractor and 110–20° and 3.5–4 atm. in the last extractor. The extd. chips had 3.16% oleoresin, and extn. gave (per cu. m. I) 33.2 kg. rosin, 10.6 kg. turpentine, and 1.5 kg. high-boiling terpines. The rosin, softening at 49.7°, acid no. 162.6, sapon. no. 185.2, contained 77.9% abietic acid, 17.3% fatty acids, 5.7% unsaponifiables, and 1.2% oxidized compds. Turpentine had $d_4^{20}$ 0.8624, $n_D^{20}$ 1.4695, acid no. 0.014, and sapon. no. 3.0. John Lake Keays

MF
9-17-54

GURICH,N.A.; YASINSKIY,B.N.

Transportation and storage of oleoresins. Gidroliz. i lesokhim. prom. 8 no.2:8-9 '55. (MLRA 8:10)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut (for Gurich). 2. Glavleskhim(for Yasinskiy)
(Oleoresins--Transportation)

GURICH, N.A., kandidat tekhnicheskikh nauk

Causes of the marked viscosity increase in the oxidation of abietic acid. Gidroliz. i lesokhim prom. 8 no.2:30 '55.
(Abietic acid) (MLRA 8:10)

GURICH, N.A.; INSHAKOV, M.D.

Thorough utilization of wood with a low resin content. Gidroliz. i lesokhim.prom. 9 no.5:25-26 '56. (MLRA 9:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut lesnogo khozyaystva (for Gurich), TSentrl(nyy nauchno-issledovatel'skiy institut bumagi.

(Wood tar)

GURICH, N.A.; ATAMANCHIKOV, G.D.

Processing spruce resin and properties of its products. Gidroliz. i lesokhim.prom. 11 no.7:17-19 '58. (MIRA 11:11)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.
(Wood--Chemistry)

VERSHUK, Vasiliy Iosifovich, starshiy nauchnyy sotrudnik; GURICH, Nina Aleksandrovna, kand.tekhn.nauk. Prinimala uchastiye ZARAKOVSKAYA, A.I., nauchnyy sotrudnik. BOGOMOLOV, B.D., red.; SARMATSKAYA, G.I., red.izd-va; PARAKHINA, N.L., tekhn.red.

[Methods of the analysis of raw materials and products of the wood resin and turpentine industry] Metody analiza syr'ia i produktov kanifol'no-skipidarnogo proizvodstva; prakticheskoe rukovodstvo dlia rabotnikov khimicheskikh laboratorii i otdelov tekhnicheskogo kontrolia. Moskva, Goslesbumizdat, 1960. 190 p. (MIRA 13:9)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut (for Zarakovskaya).
(Gums and resins) (Turpentine)

GURICH, N.A.

Making fine chips of tar-impregnated wood for the wood resin industry. Gidroliz i lesokhim.prom. 13 no.2:10-11 '60. (MIRA 13:6)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.
(Wood tar) (Gums and resins)

GURICH, N.A.; FILATOV, V.I.; KOMAROVA, A.N.

Vapor densities of some intermediate products of the wood resin and turpentine industry. Gidroliz.i lesokhim.prom. 13 no.5: 15-17 '60. (MIRA 13:7)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.
(Gums and resins) (Turpentine) (Vapor density)

GURICH, N.A.; LISOV, V.I.; PLOTNIKOV, A.Ya.; KOMSHILOV, N.F.; VOROB'YEVA, Ye.Ya.; BALETOV, A.N.; PETRONIO, V.N.

Butts of pine logs is a valuable raw material. Bum. prom. 36 no.10:16 O '61. (MIRA 15:1)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut (for Gurich, Lisov, Plotnikov). 2. Karel'skiy filial AN SSSR (for Komshilov). 3. Segezhskiy kombinat (for Vorob'yeva, Baletov, Petronio).

(Pine)
(Gums and resins)

GURICH, N.A.; RAKITINA, M.A.; /IVOGRADOVA, G.F.

Use of oleoresins and colophony obtained from hardwoods in the various branches of the industry. Gidroliz. i lesokhim. 18 no.2:15-16 '65. (MIRA 18:5)

1. TSentral'nyy nauchno-issledovatel'skiy i proyektnyy institut lesokhimicheskoy promyshlennosti.

I 04820-67 EWP(j)/EWT(m) RM

ACC NR: AP6006719 (A) SOURCE CODE: UR/0303/66/000/001/0016/0018

AUTHOR: Gurich, N. A.; Gordon, L. I.; Stul'pina, I. V.; Banshtyk, E. L.; Tulyakova, Ye. B.

ORG: none

TITLE: Water-soluble urea- and melamine-formaldehyde varnish resins

SOURCE: Lakokrasochnyye materialy i ikh primeneniye, no. 1, 1966, 16-18

TOPIC TAGS: melamine resin, urea resin, varnish

ABSTRACT: A two-step batch process has been developed for producing water-soluble urea- and melamine-formaldehyde varnish resins. It is analogous to the process used in the production of butanolized urea- and melamine-formaldehyde resins and can therefore be carried out on existing equipment. In the first stage, urea or melamine is condensed with formaldehyde in an alkaline medium at pH 8.5-8.8 with triethylamine as the catalyst. The relative proportions of the starting materials are chosen so that the semifinished product of the first stage is a mixture of tetra- and pentamethylolmelamines or dimethylurea. In the second stage (catalyst - 10% solution of oxalic acid, pH 5.4-5.6), the methylol derivatives are partially esterified with alcohol or ethylcellosolve, then the volatile part is vacuum-distilled. The yield of resins is 50-60% of the total raw materials. The alcohols are then regenerated from the distillate and reutilized. The structure of the resins produced is presented. A study of

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UDC: 667.621.264

L 04820-67

ACC NR: AP6006719

aqueous solutions of the resins showed that the chemical stability of the solutions on standing is affected by the chemical composition, solution concentration, solubility of the resin in water, pH of the medium, and nature of the alcohol used for partially blocking the methylol derivatives. Characteristics of coatings made of water-soluble systems of these resins are given. Orig. art. has: 1 figure and 2 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 002

Card 2/2 gd

USSR/Cultivated Plants - Medicinal.Essential Oils. Toxins. M.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15996

Author : N.L. Gurich

Inst : The All-Union Scientific Research Institute for Oil and Essential Oil Cultures, of the All-Union Academy of Agricultural Sciences im. V.I. Lenin.

Title : The Possibility of Using Wild Growing Tournefortia for Obtaining Perfume Floral Extracts.
(Vozmozhnost' ispol'zovaniya dikorastushchey turnefortsii dlya polucheniya parfyumernykh tsvetochnykh ekstraktov).

Orig Pub : V sb.: Kratkiy otchet o nauchn.-issled. rabote Vses. n.-i. in-ta maslich. i efiromaslich kul'tur VASKhNIL za 1955 g. Krasnodar, 1956, 103-105.

Abstract : The plants of Tournefortia embrace 120 tropical species. In the USSR there is only the species Tournefortia

Card 1/2

GURICHEV, Ye. S.; DEDOV, V. B.; LEBEDEV, I. A.; YAKOVLEV, G. N.

"Extraction and some chemical properties of transplutonium elements."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

GURICHEVA, Z.G.

Purification of waste waters by means of clarifiers. Bum.prom. 35 no.9:14-17 S '60. (MIRA 13:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut tsellyulozno-bumazhnoy promyshlennosti.
(Sewage--Purification)

MAZING, L.A., kand.tekhn.nauk; GURICHEVA, Z.G., nauchnyy sotrudnik; YEVILEVICH, M.A., nauchnyy sotrudnik; LOMOVA, M.A., nauchnyy sotrudnik; KOVALEVA, A.A., nauchnyy sotrudnik

Methods of sewage purification. Bum.prom. 37 no.9:7-10 S '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsellyulozno-bumazhnoy promyshlennosti.
(Sewage--Purification)

GORETSKIY, V.A.; PETRASHKEVICH, M.I.; GURIDOV, A.I.; DEMCHUK, N.N.; VOLOSHCHAK, Ya.A.

Stratigraphy of the lower Miocene of the Solotvin depression in Transcarpathia. Nauch.dokl.vys.shkoly; geol.-geog. nauki no.2: 116-120 '58. (MIRA 12:2)

1. L'vovskiy universitet, geologicheskiy fakul'tet.
(Transcarpathia--Geology, Stratigraphic)

GURIDOV, A.I.

Brachiopods from Middle Miocene sediments in the Solotvina Depression of Transcarpathia. Paleont.sbor. [Lvov] no.1:151-156 '61. (MIRA 15:9)

1. Ukrainskiy nauchno-issledovatel'skiy geologorazvedochnyy institut, L'vov.
(Per'yavitsa Valley--Brachiopoda, Fossil)

PETRASHKEVICH, M.I.; VOLOSHCHAK, Ya.A.; GURIDOV, A.I. [Huridov, A.I.]; DEMCHUK, N.N. [Demchuk, N.M.]

Geological structure of the Transcarpathian region in the light of new borehole data. Dop.AN URSR no.4:517-519 '61. (MIRA 14:6)

1. Ukrainskiy nauchno-issledovatel'skiy geologorazvedochnyy institut. Predstavleno akademikom AN USSR V. G. Bondarchukom.
(Transcarpathia--Geology, Stratigraphic)

PETRASHKEVICH, M.I. [Petrashkevych, M.I.]; GURIDOV, A.I. [Huridov, A.I.]

Lower and middle Miocene stratigraphy of the Transcarpathian Depression. Dop. AN URSR no.12:1629-1633 '61. (MIRA 16:11)

1. Ukrainskiy nauchno-issledovatel'skiy geologorazvedochnyy institut. Predstavleno akademikom AN UkrSSR V.G. Bondarchukom [Bondarchuk, V.H.].

GURIEWICZ S. M.

Co/o jest statystykn (What is statistics) by S.M. Guriewicz. Reported in New Books (Nowe Ksiazki.) February 15, 1956. No. 4.

GURIKANOV, DR.

"Some Problems of Labor Psychology and Labor Training," (USSR), This Report is in English.

report submitted at the 13th Intl. Congress of Applied Psychology, Intl. Association of Applied Psychology, Rome Italy, 9-14 Apr 53.

GURIKHIN, A.F., inzh.

UGK-5 device for loading coarse fodder. Trakt. i sel'khozmash. 32 no. 6:36-37 Je '62. (MIRA 15:6)

1. Golovnoye konstruktorskoye byuro Severo-Zapada.
(Agricultural implements)

CHIKOV, D. Ye., Cand Agri Sci — (diss) "Bioecological characteristics of the natural restoration of the Tyan'-Shan spruce," Alma-Ata, 1960, 27 pp (Kazakh State Agricultural Institute)

(KL, 38060, 109)

SOV/76-32-9-8/46

AUTHOR: Gurikov, Yu. V.

TITLE: Some Problems Concerning the Structure of Two-Phase Liquid-Vapor Equilibrium Diagrams of Ternary Homogeneous Solutions (Nekotoryye voprosy struktury diagramm dvukhfaznogo ravnovesiya zhidkost' - par troynykh gomogennykh rastvorov)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 9, pp 1980 - 1996 (USSR)

ABSTRACT: The purpose of the paper was to determine mathematically the relationships between the number of special points (plotted and connecting points) in ternary boiling-point diagrams. On this basis it was possible to arrive at a complete classification of the possible types of diagrams. The author derives the following relationship: $2\,C_3-C_2-2 = 2\,N_3-N_2-N_1$; here, $C_3$ is the number of ternary connecting points, $C_2$ is the number of binary connecting points, $N_3$ is the number of ternary plot points, and $N_2$ is the number of binary plot points. $N_1$ is the number of triangular angles, which are also plot points. The author

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designates this equation as the Azeotrope Rule. The 16 possible types of diagrams are then derived (Figs 4-25). By using his own examples the author shows that the experimental findings agree with the theoretical results (Figs 2 and 3, Tables 3 and 4). The work was carried out at the suggestion of Professor A.V.Storonkin. There are 26 figures, 4 tables, and 27 references, 14 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im.A.A.Zhdanova (Leningrad State University imeni A.A.Zhdanov)

SUBMITTED: March 28, 1957

GURIKOV, Yu.V.

Mutual orientation of water molecules in ionic solutions, and the salting-out of nonelectrolytes. Zhur. strukt. khim. 1 no.3:286-304 S-O '60. (MIRA 14:1)

1. Radiyevyy institut AN SSSR imeni V.G. Khlopina, Leningrad.
(Water) (Salting-out)

GURIKOV, Yu.V.

Electronic structure of a water molecule in the vapor condensation phase. Zhur.strukt.khim. 2 no.4:402-407 Jl-Ag '61. (MIRA 14:9)

1. Radiyevyy institut imeni V.G. Khlopina AN SSSR.
(Water) (Molecules)

GURIKOV, Yu.V.

Limits of applicability of the Debye-Hückel theory. Zhur.strukt. khim. 3 no.1:10-14 Ja-F '62. (MIRA 15:3)

1. Radiyevyy institut imeni V.G.Khlopina, Leningrad.
(Electrolyte solutions)

GURIKOV, Yu.V.

Variational theory of classical liquids and an extension of superpositional approximation. Ukr.fiz.zhur. 7 no.7:692-697 Jl '62. (MIRA 15:12)

1. Radiyevyy institut AN SSSR im. V.G. Khlopina, Leningrad.
(Liquids)

32638
S/076/62/036/001/009/017
B124/B110

5.4130

AUTHOR: Gurikov, Yu. V.

TITLE: Calculation of angular mean values in the lattice theory of liquids

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 1, 1962, 103-110

TEXT: Procedures of various authors for the calculation of liquid lattices are based, in most cases, on the free-volume theory of J. E. Lennard-Jones and A. F. Devonshire, which assumes equal probability of all molecular positions on a sphere of a given radius. Different weights are assigned to various points of the sphere according to J. S. Dahler, J. O. Hirschfeld, and H. C. Tacher (Ref. 4). It must be stressed that each procedure of calculating angular mean values contains an arbitrary factor due to the limitations imposed by the simplified lattice theory, according to which molecules in two adjacent cells move independently of each other. Various approaches were made to determine the two-cell distribution function $F_{0j}^{(n)}(r_o, \omega_o; r_j^{(n)}, \omega_j^{(n)})$, e.g., by decomposing the single-cell distribution

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function into a radial and an angular component, by multiplicative approximation with the corresponding single-cell distribution functions, and by other methods. When the spherically symmetrical cell potential is calculated, the intermolecular potential is automatically stabilized with the aid of the weight functions $\Omega_j^{(n)}$. A linear approach to $\Omega_j^{(n)}$ is suggested by means of the radial distribution function

$$\Omega_j^{(n)}(\omega_o/r_o) = g^{(n)}(\tilde{r}_o^{(n)}) / \oint g^{(n)}(\tilde{r}_{oj}^{(n)})\,d\omega_o \qquad (12),$$

where $\tilde{r}_{oj}^{(n)}$ is the distance between a molecule in the central cell and the j-th molecule in the n-th shell fixed at the center of the cell, and $g^{(n)}(r)$ is the contribution of the n-th shell to the radial distribution function. For the radial function, the relation

$$g(r) = \sum_n Z_n g^{(n)}(r), \qquad (13)$$

$$g^{(n)}(r) = \frac{r}{4\pi r^2} \iint \oint\oint F_{oj}^{(n)} \delta(r_{oj}^{(n)} - r)\, dr_o\, dr_j^{(n)} d\omega_o\, d\omega_j^{(n)}.$$

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Calculation of angular mean...

was used, where $Z_n$ is the number of cells forming the n-th shell. This system of equations can be solved using the successive approximation method of C. N. Wall. The knowledge of the potential energies of liquid molecules is insufficient to calculate their thermodynamical properties. Therefore, the liquid entropy was decomposed into two components, $S = S_t + S_{cor}$, for which the relations

$$S_t = -kN \int 4\pi r_o^2 f(r_o) \ln f(r_o) dr_o$$

and

$$S_{cor} = -kN \sum_{n,j} \int\int \Psi_j^{(n)}(r_o, \omega_o) \ln \left[ \frac{\varphi_j^{(n)}(r_o, \omega_o)}{f(r_o)} \right] dr_o d\omega_o \qquad (15)$$

hold. Here, $S_t$ = entropy due to molecular vibration in cells within the field $\Psi_S$, and $S_{cor}$ = entropy correlation due to a certain conformity of molecular motions in adjacent cells. The free energy of a liquid may be given as

$$F/N = \frac{1}{2} \Psi_S(0) - TS_{cor} - kT \ln v_f \qquad (16),$$

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Calculation of angular mean...

where $v_f$ is the free volume of Lennard-Jones and Devonshire, differing only in the use of the mean cell potential $\Psi_s$ instead of the known cell potential. Table 1 shows the G integrals giving free-volume values for two temperatures $T^* = 0.9$ and 1.00, the critical isotherm involving two shells being 0.95. Entropy values calculated by this and other methods are in good agreement. The accuracy can be raised by allowing for the third shell. The evaporation energy calculated from the equation

$$E^*_{evap} = a/v^{*n} \qquad (17),$$

n being approximately unity, deviates considerably from experimental results. Vapor pressures are given by $\ln p^* = a - b/T^*$. with a varying between 2.21 and 5.91, and b between 5.99 and 8.14. Professor V. M. Vdovenko, Corresponding Member AS USSR, is thanked for assistance. There are 2 figures, 3 tables, and 19 non-Soviet references. The four most recent references to English-language publications read as follows: Ref. 1: J. E. Lennard-Jones, A. F. Devonshire, Proc. Roy. Soc., A163, 53, 1937; ibid. A165, 1, 1938; Ref. 4: J. S. Dahler, J. O. Hirschfelder, H. C. Tacher, J. Chem. Phys., 25, 249, 1956; Ref. 8: C. N. Hall, Phys.

Card 4/5

32638

S/076/62/036/001/009/017
B124/B110

Calculation of angular mean...

Rev., 54, 1062, 1938; Ref. 13: J. S. Dahler, J. Chem. Phys., 29, 1082, 1958.

SUBMITTED: April 11, 1960

Table 1. G integrals.

| $\vartheta^*$ | $T^* = 1,00$ | | | $T^* = 0,90$ | | |
|---|---|---|---|---|---|---|
| | $G$ | $G_l$ | $G_m$ | $G$ | $G_l$ | $G_m$ |
| 2,575 | 0,1342 | 1,3109 | 0,1381 | 0,1516 | 1,4410 | 0,1547 |
| 2,236 | 0,0799 | 0,4834 | 0,0622 | 0,0878 | 0,5174 | 0,0874 |
| 2,000 | 0,0478 | 0,1976 | 0,0282 | 0,0510 | 0,2044 | 0,0306 |
| 1,826 | 0,0291 | 0,0869 | 0,0143 | 0,0301 | 0,0870 | 0,0145 |
| 1,581 | 0,0114 | 0,0202 | 0,00385 | 0,0113 | 0,0191 | 0,00368 |
| 1,414 | 0,00488 | 0,00576 | 0,00121 | 0,00459 | 0,00518 | 0,00110 |

Table 1

Card 5/5

GURIKOV, Yu.V.

Similarity of the structures of water and ice.I. (in connection with the results of studies of the inelastic scattering of cold neutrons by water). Zhur.strukt.khim. 4 no.6:827-829 N-D '63. (MIRA 17:4)

1. Radiyevyy institut AN SSSR imeni V.G.Khlopina, Leningrad.

L 12697-63 EPR/EPF(n)-2/EWT(1)/BDS/ES(v) AFFTC/ASD/SSD Pu-4/
Pu-4/Pe-4 WW

ACCESSION NR: AP3002924 S/0076/63/037/006/1223/1229

69

AUTHOR: Gurikov, Yu. V.

TITLE: Variation theory of molecular distribution functions

SOURCE: Zhurnal fizicheskoy, v. 37, no. 6, 1963, 1223-1229

TOPIC TAGS: variation theory, molecular distribution, liquid state theory, free energy, integral equation, binary distribution function

ABSTRACT: The variation theory of molecular distribution functions discloses new possibilities for the theory of the liquid state. In contrast to the earlier work of Richardson, main attention is given to analysis of the limitations which must be placed on the distribution function in order for it to confirm the general relations in the probability theory. Criteria have been proposed by means of which the unobserved contribution to the free energy can be separated out. An integral equation has been derived for a binary distribution function comparable in accuracy with the results of the straightforward summation of statistical integrals. Orig. art. has: 12 equations.

ASSOCIATION: Radiyevy*y institut im. V. G. Khlopina (Radium Institute)

Card 1/2

GURIKOV, Yu.V.

Variation theory of molecular distribution functions. Part 2. Zhur.fiz. khim. 37 no.7:1455-1460 Jl '63. (MIRA 17:2)

1. Radiyevskiy institut imeni V.R.Khlopina, Leningrad.

GURIKOV, Yu.V. (Leningrad)

Recurrent consecutive equations in the classical theory of liquids. Zhur. fiz. khim. 37 no.11:2420-2425 N'63. (MIRA 17:2)

GURIKOV, Yu.V.

Statistical distribution in a system of identical particles.
Zhur. fiz. khim. 37 no.11:2536-2539 N'63. (MIRA 17:2)

GURIKOV, Yu.V.

Mechanism of self-diffusion in water. Zhur.strukt.khim. 5 no.2:288-292 Mr-Ap '64. (MIRA 17:6)

1. Radiyevyy Institut imeni V.G.Khlopina AN SSSR.

GURIKOV, Yu.V. (Leningrad)

Functional expansions in the theory of statistical equilibrium. Ukr. fiz. zhur. 9 no.4:360-365 Ap '64. (MIRA 17:8)

ACCESSION NR: AP4012964 S/0020/64/154/004/0815/0818

AUTHOR: Gurikov, Yu. V.

TITLE: Functional expansion in the theory of statistical equilibrium

SOURCE: AN SSSR. Doklady*, v. 154, no. 4, 1964, 815-818

TOPIC TAGS: functional expansion, statistical equilibrium, distribution function, series conversion, statistics

ABSTRACT: The paper gives a new, closed, functional equation with variational derivatives for the correlative functional introduced by the Bogolyubov method (Vestn. Mosck. Univ. 4-5, (1954) 115). Bogolyubov has developed a general formal method of a generating functional for the derivation of the distribution functions which describes molecular ordering in systems consisting of a very large number of particles. For the liquid phase, expansions are needed which converge faster than the known expansions with respect to

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ACCESSION NR: AP4012964

density, activity, or the interaction constant. The solution of the equation of the present author contains that of J.K. Perkus (Phys. Rev. Let. 8, 462 (1962)) as a special case. "The author is grateful to S.V. Tyablikov and D.N. Zubarev for reading the manuscript and for comments." Orig. art. has: 17 equations

ASSOCIATION: Radiyevy*y institut Akademii Nauk SSSR (Radium Institute of the Academy of Sciences SSSR)

| | | |
|---|---|---|
| SUBMITTED: 17Oct63 | DATE ACQ: 26Feb64 | ENCL: 00 |
| SUB CODE: PH | NO REF SOV: 004 | OTHER: 009 |

Card 2/2

VDOVENKO, V.M.; [illegible], L.N.; SHCHUKINSKIY, Ye.V.; [illegible], Yu.I.

Thermodynamic characteristics of the system $HF - HNO_3 - H_2O$. Part 2: Calculation of activity of components in the system $HF - HNO_3 - H_2O$. Radiokhimiia 7 no.2:151-159 '65.

(MIRA 18:6)

L 14698-66

ACC NR: AP6008247 SOURCE CODE: UR/0089/65/019/005/0433/0437

AUTHOR: Vdovenko, V. M.; Gurikov, Yu. V.; Lagin, Ye. K.

ORG: none

TITLE: Cation hydration in heavy water

SOURCE: Atomnaya energiya, v. 19, no. 5, 1965, 433-437

TOPIC TAGS: heavy water, hydration, cation, enthalpy, aqueous solution, alkali metal, halide, free energy, chemical kinetics

ABSTRACT: An account is given of the use of the molecular-kinetic description of the two-layer model of hydration for the analysis of the isotopic differences of the free energy and enthalpy of solution in water and heavy-water solutions of alkali metal halides. The lifetime and distribution density of water molecules in the layer of secondary hydration are examined. It is shown that in heavy-water solutions dehydration of the ions occurs. It is established that the difference of free energy and enthalpy of solution in light and heavy water should increase with an increase of the cation radius, i.e., from $Li^+$ to $Cs^+$. The results obtained agree with experimental data. [NA]

SUB CODE: 07, 18, 20 / SUBM DATE: 28Jan65 / ORIG REF: 009 / OTH REF: 008

BVK

Card 1/1

UDC: 542.934:546.212.02

VYAZANKIN, N.S.; RAZUVAYEV, G.A.; GLADYSHEV, Ye.N.; GURIKOVA, T.G.

First metallo-organic compounds with Si-Si-Hg and Si-Hg-Ge groups. Dokl. AN SSSR 155 no. 5:1108-1110 Ap '64. (MIRA 17:5)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete im. N.I.Lobachevskogo. 2. Chlen-korrespondent AN SSSR (for Razuvayev).

GURIKOVA, V. O.

SEREDENKO, M.P.; GIAMAZDA, A.D.; KHOTIMCHENKO, M.M.; SEEVCHENKO, Ya.O.; RUDOY, P.Yu.; KHARCHENKO, P.F.; KIRAMOV, O.O.; GURIKOVA, V.O.; GORELIK, L.Ye.; RIZHKOV, I.I.; ZHEREBKIN, G.P.; NIKOLAYEVA, I.V.; KOROBKO, V., redaktor; LAPCHENKO, K., tekhnichniy redaktor

[Industry of the Soviet Ukraine during 40 years, 1917-1957] Promyslovist' Radians'koi Ukrainy za 40 rokiv (1917-1957). Kyiv, Derzh.vyd-vo polit.lit-ry URSR, 1957. 330 p. (MLRA 10:10)

1. Akademiya nauk URSR, Kiyev. Institut ekonomiki.
(Ukraine--Industries)

GURIKOVA, Z.F.

Calculation of the surface field of water density in the Pacific Ocean. Izv. AN SSSR. Ser. geofiz. no.7:1071-1083 Jl '64. (MIRA 17:7)

1. Dal'nevostochnyy gosudarstvennyy universitet.

GURIKOVA, Z.F.

Formation of the density field and calculation of nonstationary currents in the Pacific Ocean. Okeanologiia 4 no.5:911-912 '64
(MIRA 18:1)

GURIKOVA, Z.F.; VINOKUROVA, T.T.; NATAROV, V.V.

Diagram of the wind-driven circulation of the Bering Sea currents in August of 1959 and 1960. Trudy VNIRO 49:51-76 '64.
(MIRA 18:5)

1. Kafedra fiziki morya Dal'nevostochnogo gosudarstvennogo universiteta (for Gurikova). 2. Tikhookeanskiy nauchno-issledovatel'skiy institut morskogo rybnogo khozyaystva i okeanografii (for Vinokurova, Natarov).

ACC NR: AP6030457 (N) SOURCE CODE: UR/0213/66/006/004/0615/0631

AUTHOR: Gurikova, Z. F.

ORG: Khabarovsk Polytechnical Institute, Far-eastern State University (Khabarovskiy politekhnicheskiy institut, Dal'nevostochnyy gosudarstvennyy universitet)

TITLE: Computations of the surface and deep ocean currents in the northern Pacific in summer

SOURCE: Okeanologiya, v. 6, no. 4, 1966, 615-631

TOPIC TAGS: surface current, atmospheric pressure, water temperature, salinity, ocean current, OCEAN PROPERTY / NORTH PACIFIC OCEAN

ABSTRACT: Some results of computing the surface and deep ocean currents in the northern Pacific in summer are presented. The distribution of atmospheric pressure in August and water temperature and salinity (density) in the Pacific have served as initial data for the computations. The ocean depths were taken from the map edited by G. B. Udintsev. Maps are also given showing the currents computed for depths of 0.25, 100, 500, 1500, 2000, and 3000 m. Orig. art. has: 10 formulas, 7 figures and 3 tables.

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F. H. Rathmann